

Claims:

1. A method of drilling and completing a plurality of subsea wells, comprising:

(a) with a floating platform, connecting a drilling riser to a first wellhead housing, drilling and casing a first well, then running a string of tubing and landing a tubing hanger in the first wellhead housing;

(b) with the floating platform, disconnecting the drilling riser from the first wellhead housing, connecting the drilling riser to a second wellhead housing, and performing operations on a second well; and

(c) while performing at least part of step (b), lowering a production tree on a lift line from the same floating platform and connecting the tree to the first wellhead housing.

2. The method according to claim 1, wherein:

during step (a) a derrick of the platform is located over the first wellhead housing;

the platform is moved from the position in step (a) after the drilling riser is disconnected to position the derrick above the second wellhead housing; and

step (c) is performed simultaneously from the platform while performing operations on the second well.

3. The method according to claim 1, wherein step (a) further comprises perforating the first well and setting a plug within the tubing hanger.

4. The method according to claim 3, further comprising after step (c):

lowering a plug removal tool on the lift line and landing the plug removal tool on the tree;

removing the plug with the plug removal tool; then

disconnecting the plug removal tool from the tree and retrieving the plug removal tool on the lift line.

5. The method according to claim 1, wherein:

step (a) further comprises providing the tubing hanger with a tubing annulus valve and closing the tubing annulus valve prior to disconnecting the drilling riser from the first wellhead housing; and

step (c) further comprises selectively opening the tubing annulus valve after the tree lands on the first wellhead housing.

6. The method according to claim 1, wherein:

step (a) further comprises providing the tubing hanger with a tubing annulus valve that closes due to a spring bias prior to disconnecting the drilling riser from the first wellhead housing; and

step (c) further comprises providing the tree with a hydraulically powered actuator, and opening the tubing annulus valve with the actuator after the tree lands on the first wellhead housing.

7. The method according to claim 1, wherein step (a) further comprises:

providing the tubing hanger with an orientation member and rotating the tubing hanger to a desired orientation; and step (c) further comprises:

providing the tree with an orientation member and engaging the orientation member of the tree with the orientation member of the tubing hanger to rotate the tree in a desired final orientation.

8. The method according to claim 1, further comprising:

providing the tree with a flowline connector and rotating the tree to a desired orientation while it is landing on the first wellhead housing; and

connecting a flowline jumper to the flowline connector and to additional subsea equipment.

9. The method according to claim 1, further comprising:

providing the tree with a flowline connector; and

connecting a flowline jumper to the flowline connector and to additional subsea equipment, the flowline jumper having an arcuate portion that is sufficiently buoyant to float in a vertical plane after installation.

10. The method according to claim 1, further comprising:

connecting a subsea fluid separator to a subsea manifold having flowlines leading to a surface processing facility;

connecting a flowline jumper from the tree to the subsea fluid separator;

connecting a choke between the separator and the subsea manifold; and

flowing well fluid from the tree to the separator, separating heavier and lighter components of the well fluid in the separator, and reducing pressure of the flowing well fluid product as the well fluid flows through the choke to the manifold for transport to the surface facility.

11. A method of drilling and completing a plurality of subsea wells, comprising:

- (a) with a floating platform, connecting a drilling riser to a first wellhead housing, and drilling and casing a first well;
- (b) running a string of tubing and landing a tubing hanger in the first wellhead housing;
- (c) lowering a perforating gun through the tubing, perforating the well, then setting a plug in the tubing hanger;
- (d) disconnecting the drilling riser from the first wellhead housing; then
- (e) with the floating platform, connecting the drilling riser to a second wellhead housing, and drilling and casing a second well; and
- (f) while performing at least part of step (e), lowering a production tree on a lift line from the same floating platform and connecting the tree to the first wellhead housing.

12. The method according to claim 11, further comprising:

- lowering a plug removal tool on the lift line and landing the plug removal tool on the tree;
- removing the plug with the plug removal tool; then
- disconnecting the plug removal tool from the tree and retrieving the plug removal tool on the lift line.

13. The method according to claim 11, wherein:

step (b) comprises providing the tubing hanger with a tubing annulus valve;

step (c) further comprises circulating fluid between the tubing and a tubing annulus when the valve is open, and closing the valve prior to disconnecting the drilling riser of step (d); and the tree has an actuator that selectively opens the valve.

14. The method according to claim 11, further comprising providing the tree with a flowline connector and rotating the tree while it is landing on the wellhead housing to place the flowline connector in a desired orientation.

15. The method according to claim 11, further comprising moving the platform after step (d) and before step (e), and step (e) is performed by deploying the lift line from the platform after the platform has moved.

16. The method according to claim 11, further comprising after step (d)

connecting the tree to a subsea well fluid separator, the separator being connected to a subsea choke, which in turn is connected to a subsea manifold that has flowlines that lead to a surface processing facility; and

flowing well fluid from the tree, separating heavier and lighter components of the well fluid in the separator, then reducing the pressure of the flowing well fluid product and flowing at least some of the well fluid through the manifold and the flowlines to the surface processing facility.

17. A method of producing a subsea well, comprising:

connecting a subsea fluid separator to a subsea manifold having flowlines leading to a surface processing facility;

connecting a flowline jumper from the tree to the subsea fluid separator;

connecting a choke between the separator and the subsea manifold; and

flowing well fluid from the tree to the separator, separating heavier and lighter components of the well fluid in the separator, and reducing pressure of the flowing well fluid product as the well fluid flows through the choke to the manifold for transport to the surface facility.